ECS Configuration Change Request

1. Originator	2. Log Date:	3. CCR #:	4. Rev:	5. Tel:	6. Rm #:	7. Dept.
R. Hatfield	**8/7/01**	**01-0642**	**—**	925-0513	2026	SE

8. CCR Title: Correct Performance Criteria for the EN_6A_01 Ticket for consistency with the SSRP contents.

9. Originator Signature/Date	10. Class	11. Type:	12. Need Date: 8/13/01
Richard L. Hatfield /s/ 7/30/01	**II**	**CCR**	

13. Office Manager Signature/Date	14. Category of Change:	15. Priority: (If "Emergency" fill in Block 27).
Evelyn N. Nakamura /s/ 7/31/01	Initial ECS Baseline Doc.	Routine

16. Documentation/Drawings Impacted:	17. Schedule Impact:	18. CI(s) Affected:
None	N/A	

19. Release Affected by this Change:	20. Date due to Customer:	21. Estimated Cost:
6A	N/A	None - Under 100K

22. Source Reference: ☐NCR (attach) ☐Action Item ☐Tech Ref. ☐GSFC ☐Other:

23. Problem: (use additional Sheets if necessary)
The Ticket contained performance criteria that reflect estimates in the ICD on the expected amount of input from IGS for browse and metadata. The revised criteria reflects the content of the workload appendix to the Release 6B SSRP for IGS input . This is 690 scenes per day. The wording is also modified to make it clear what the test is to accomplish.

24. Proposed Solution: (use additional sheets if necessary)
Incorporate the attached changest into the test criteria.

25. Alternate Solution: (use additional sheets if necessary)
None

26. Consequences if Change(s) are not approved: (use additional sheets if necessary)
Incorrect and unclear test criteria.

27. Justification for Emergency (If Block 15 is "Emergency"):

28. Site(s) Affected: ☐EDF ☐PVC ☐VATC ☐EDC ☐GSFC ☐LaRC ☐NSIDC ☐SMC ☐AK ☐JPL ☐EOC ☐IDG Test Cell ☐Other

29. Board Comments:	30. Work Assigned To:	31. CCR Closed Date:

32. EDF/SCDV CCB Chair (Sign/Date): **Byron V. Peters /s/ 12/12/01**	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB
33. M&O CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
34. ECS CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS

Latest CCR Affecting this Ticket: 01-0325
Latest CCR DATE Affecting this Ticket: 04/19/2001

Ticket : EN_6A_01 (With L4 Mappings)

Tape Ingest of IGS Browse data and Metadata

Launch Criticality: 6A
Review: Ingest, SDSRV, SO
Priority: NO DATA
Number of Tracked Ticket Changes: 14

Ticket CCR Number*: 00-0060
Ticket CCR Date*: 01/24/2000
* Represents changes to information from Ticket table only. Does not include information linked in from other tables.

NOTE: The number of tracked changes (above) represents the number of changes to this particular Ticket. Whenever the data appearing in this Ticket changes this number is incremented by 1.

External Interface Dependency:
NO DATA

Subsystem Dependency:
NO DATA

Preconditions:

NO DATA

Comments:
Operations Concept :

(Reference - 430-11-06-009 - Landsat7 to IGS ICD) The International Ground Stations (IGSs) will receive and process L7 data directly from the spacecraft. The IGSs will provide to the L7 system at the EDC DAAC only browse data and metadata for the images that they have received and processed. The ECS system at the EDC DAAC ingests the IGS provided browse data and metadata, and will serve as a catalog of IGS metadata and archive for IGS browse data. Users may search the EDC DAAC catalog for the metadata about data acquired by IGSs, and retrieve the IGS browse data for those scenes. Users wishing to order this data must go directly to the IGS to retrieve the L7 products. The ECS does not provide any archive or distribution services for IGS processed L7 data.

Metadata can be transferred to the ECS either electronically (Drop 5A) or via 8mm tape (Drop 6A). In Drop 6A, Browse data is provided via tape only and is accompanied by the associated metadata. Metadata accompanying the browse data may have been sent and ingested earlier by the IGS. In this case the metadata that accompanies the browse data will replace the existing metadata. The metadata contained on the tape is compared with metadata already received when making the decision to replace or not. If the following attributes for a subinterval are identical, and specifically that the SUBINTERVAL_START_TIME matches when the times match after truncating to the minute level, all metadata is replaced together with the associated browse data:

STATION_ID
(subinterval level metadata)
STARTING_PATH
SUBINTERVAL_START_TIME

There are three formats for metadata files provided by IGSs: (a) Metadata 0 (M0) format representing the combined F1 and

F2 L7 data format; (b) Metadata1 (M1) corresponding to F1 format L7 data and (c) Metadata2 (M2) corresponding to F2 format L7 data. The capability to electronically ingest the M0 format is provided with Drop 5A. There are no known suppliers of the M1 and M2 format files in the 6A period. Therefore the capability is deferred to ingest and combine the M1 & M2 metadata formats and insert it into the inventory. The formats for the metadata and browse files are contained in Landsat 7 to International Ground Station (IGS) Interface Control Document, document # 430-11-06-009-C. This reference also defines the file naming convention for these files.

Operations concepts behind these Drop 6A capabilities are as follows:

· At least 16 IGSs are expected to contribute Browse and Metadata

· All of the stations encompass 575 possible scenes per day, and collectively can provide 2 Gbytes of browse and metadata per day. A monthly total across all stations is 60 Gbytes. Per station, this corresponds to a single tape per month containing 3.75 Gbytes of browse and metadata.

The ECS requirement contained in the Release 6A SSRP for IGS metadata and browse ingest is 690 scenes per day.

· M0 format metadata electronic ingest is provided as an existing capability. No enhancements are required for Drop 6A.

· M0 format metadata may arrive via 8mm tape either by itself or with accompanying browse data on a monthly basis. Browse data does not come without metadata.

The procedures for ingesting a monthly IGS tape are as follows:

1. An IGS tape arrives accompanied in the package by a hardcopy version of the Physical Media Product Delivery Record (PMPDR). The tape contains a Unix tar file. The tar file contains a PMPDR and all of the browse files and metadata files (M0) for the transfer.

2. The operator prints/displays the contents of the on-tape PMPDR. The operator compares this with the hardcopy version. If there are any discrepancies the operator notifies the IGS. The operator obtains a copy of the on-tape PMPDR for coordination with the IGS.

3. The operations person initiates the IGS tape ingest process.

4. The IGS tape ingest process copies the tar file to a disk directory and untars the tar file

5. The ingest process evaluates the contents of the PMPDR. A Physical Media Product Delivery Record Discrepancy (PMPDRD) email message is formatted and sent to the IGS if a problem is found - the ingest process ends with the first problem detected on the PMPDR. The operator is notified of the result of the ingest operation. The ingest ends at this point. The IGS is then to send another complete tape correcting the problems.

6. If there are no problems found in the PMPDR evaluation, the ingest proceeds. The tape can contain one or more File Groups. Each File Group typically contains one (M0) metadata file and from zero to 37 browse files, all corresponding to a single L7 subinterval. Ingest will verify that all expected files exist on the tape and fail the ingest if they do not. A Physical Media Production Acceptance Notification (PMPAN) is generated. If no errors are encountered for the files covered by the PMPDR, a short PMPAN is sent to the IGS via email indicating successful ingest of the files. If errors are encountered that are not specific to a single file and prevent all files from being ingested, a short PMPAN message is sent to the IGS via email indicating the problems and failed ingest. If problems are encountered that are specific to a single file or file group, a long PMPAN message is sent to the IGS via email indicating the problems and failed ingest. Files/file groups that do not have any problems are processed and ingest to the system while files/file groups with errors are not and will need to be resent by the IGS.

7. The staging disk area is cleaned up following the ingest.

Development Capability(ies):

Cap ID	Title	Description	Change Date
10023DT	IGS Browse Processing	The ability to ingest L7 IGS browse data via tape.	01/24/2000
10023IN	IGS Browse Processing	The ability to ingest L7 IGS browse data via tape.	01/24/2000

Level 3 Requirement(s):

L3 ID	L3 Text	Clarification	Category	Release	CCR Num
DADS0170	The ECS shall be capable of receiving from Landsat the following: a. L70R data sets b. Metadata c. Ancillary data d. Calibration data	Electronic ingest of IGS format 0 metadata (5P); IGS Browse and format 0 metadata from tape (6A)	INS SDSRV	5A 6A Partial	01-0324

DADS0470	The ECS DAAC at the EDC shall provide storage for the following Landsat 7 data: a. Level 0R data b. Associated metadata and browse c. IGS metadata and browse d. Associated calibration and metadata e. Calibration updates and metadata	Electronic Ingest of IGS format 0 metadata (5P); IGS Browse and format 0 metadata from tape (6A).	STMGT	5A 6A Partial	01-0325

IRD Requirement(s):

IRD ID	IRD Text	CCR Num
LAND-0090	The IGSs shall have the capability to send and the ECS shall have the capability to receive inventory metadata for Landsat 7 IGS data.	00-0447
LAND-0100	The IGSs shall have the capability to send and the ECS shall have the capability to receive browse data for Landsat 7 IGS data.	00-0447

Level 4 Requirement(s):

L4 ID	L4 Text	Release	CCR Num
S-DSS-06720	The SDSRV CI shall provide an automated procedure to perform insert processing of Landsat IGS Science data: a. As a regular Science granule insert when Browse data is not provided. b. As an integrated Browse insert when Science granule and Browse data is provided and the Science granule does not previously exist in the SDSRV Inventory. c. As an update to the Science granule metadata and an insert of the Browse data when both Science and Browse are provided and the Browse does not previously exist. d. Only an exact match of the following attributes will determine 'prior existence' of a Science granule within the SDSRV Inventory - Station ID, Starting path, and Subinterval Start time where a match is found if times match after truncating to the minute level.	6A	00-0421
S-INS-00787	The INGST CI shall ingest Data, provided by the Landsat 7 International Ground Stations (IGSs), into the EDC DAAC on 8	6A	99-1234

	mm cartridge tape.		
S-INS-00788	The INGST CI shall ingest browse and associated Metadata 0 data, provided by the Landsat 7 International Ground Stations (IGSs), into the EDC DAAC from 8 mm cartridge tape.	6A	00-0341

L4 to L3 Mappings:

L4 ID	L3 ID	CCR Num
S-DSS-06720	DADS0170	00-0060
S-INS-00787	DADS0170	99-0729
S-INS-00787	DADS0470	00-0060
S-INS-00787	EOSD0030	99-0729
S-INS-00788	DADS0170	00-0060
S-INS-00788	DADS0470	00-0060

L4 to IRD Mappings:

L4 ID	IRD ID	CCR Num
S-INS-00787	LAND-0090	99-0729
S-INS-00787	LAND-0100	99-0729
S-INS-00788	LAND-0090	00-0060
S-INS-00788	LAND-0100	00-0060

Criteria:

Criteria Key	Criteria ID	Criteria Text	Type	CCR Num
1684	10	Archive & inventory IGS Metadata (M0 format) / Browse tape data from 8 mm tape.	FC	99-1234
1738	11	Demonstrate that a correctly formatted PMPDRD email message is sent to the appropriate location if a problem is found with the PMPDR on the tape that the ingest process ends for a file group with the first error encountered in the file group and validation processing proceeds with the next file group on the tape.	FC	00-0550
1739	12	Demonstrate that a correct formatted short PMPAN email message is sent to the appropriate location if no errors are encountered in processing the files covered by an ingest (i.e., covered by a PMPDR)	FC	00-0060
1740	13	Demonstrate the ability to ingest metadata and browse data from a tape which contains multiple file groups (i.e., multiple subintervals of metadata and browse data)	FC	00-0060

1741	14	Demonstrate that a correct formatted short PMPAN email message is sent to the appropriate location if non-file specific errors are encountered that prevent ingest of the files covered by a PMPDR.	FC	00-0550
1742	15	Demonstrate that a correct formatted long PMPAN email message is sent to the appropriate location if errors in a single file or file group are encountered that prevent ingest of the files covered by a PMPDR.	FC	00-0550
1685	20	Demonstrate the ability to insert metadata and browse for the case in which the metadata has been previously inserted, so that the existing metadata is replaced with the metadata accompanying the browse file. A match is found if the following metadata match: Station_ID, Starting_Path, and Subinterval_Start_Time where the times match if times match after truncating to the minute level.	FC	00-0421
1743	21	Demonstrate the ability to retrieve (e.g., through subscription, EDG or other suitable mechanism) IGS browse granules that have been inserted via the IGS Browse and Metadata tape ingest process.	FC	00-0060
1744	22	Demonstrate the ability to inspect metadata describing Landsat 7 subintervals that has been inserted via the IGS Browse and Metadata tape ingest process.	FC	00-0060
1686	30	Demonstrate the ability to ingest 1 tape within one day representing input from an IGS. The tape should contain a PMPDR file formatted as described in the L7-to-ECS ICD, which describes the other files on the tape. Each tape should also contain 690 browse granules, each browse granule approximately 100Kbytes in volume. The tape should also contain metadata files or MTA files, formatted in accordance with the Landsat 7 to IGS ICD. Each MTA file contains the metadata representing a subinterval and the scenes of the subinterval received at the ground station. For the test, there are 102 MTA files on the tape: 96 MTA files will represent subintervals of 6 scenes each; 3 MTA files will represent subintervals of 37 scenes each; and 3 MTA files will represent subintervals of 1 scene each.	PC	99-1234
1748	44	Demonstrate that PMPDR problems detected and handled include (Long PMPDRD): Invalid Data Type	EC	00-0060
1749	51	Demonstrate that the Ingest tape processing can detect and respond to the following errors with a short PMPAN message: Incorrect number of metadata files.	EC	00-0060

1751	53	Demonstrate that the Ingest tape processing can detect and respond to the following errors with a short PMPAN message: Incorrect number of files.	EC	00-0060
1690	70	Demonstrate that the Ingest tape processing can detect and respond to the following errors with a Long PMPAN message: Incorrect number of files.	EC	00-0060

Test Case(s):

Criteria Key	Criteria Type	Test Case ID	Test Case Title	TC CCR Num	TC to CRIT CCR Num
1684	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1685	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1690	EC	6A09000	IGS Tape Ingest	00-0538	00-0538
1738	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1739	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1740	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1741	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1742	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1743	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1744	FC	6A09000	IGS Tape Ingest	00-0538	00-0538
1748	EC	6A09000	IGS Tape Ingest	00-0538	00-0538
1751	EC	6A09000	IGS Tape Ingest	00-0538	00-0538